

## WEST Search History

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*DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ*

<input type="checkbox"/>	L1	amylase with bacillus with (ksm adj3 k38 or bp adj3 6946 or k38amy)	5
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END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 5 of 5 returned.

☐ 1. Document ID: US 20040265959 A1

Using default format because multiple data bases are involved.

L1: Entry 1 of 5

File: PGPB

Dec 30, 2004

PGPUB-DOCUMENT-NUMBER: 20040265959

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040265959 A1

TITLE: Highly productive alpha-amylases

PUBLICATION-DATE: December 30, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Araki, Hiroyuki	Tochigi		JP
Endo, Keiji	Tochigi		JP
Hagihara, Hiroshi	Tochigi		JP
Igarashi, Kazuaki	Tochigi		JP
Hayashi, Yasuhiro	Tochigi		JP
Ozaki, Katsuya	Tochigi		JP

US-CL-CURRENT: [435/69.1](#); [435/204](#), [435/252.3](#), [435/320.1](#), [510/320](#), [536/23.2](#)

<a href="#">Full</a>	<a href="#">Title</a>	<a href="#">Citation</a>	<a href="#">Front</a>	<a href="#">Review</a>	<a href="#">Classification</a>	<a href="#">Date</a>	<a href="#">Reference</a>	<a href="#">Sequences</a>	<a href="#">Attachments</a>	<a href="#">Claims</a>	<a href="#">KIMC</a>	<a href="#">Draw Da</a>
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☐ 2. Document ID: US 20040091994 A1

L1: Entry 2 of 5

File: PGPB

May 13, 2004

PGPUB-DOCUMENT-NUMBER: 20040091994

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040091994 A1

TITLE: Alpha-amylase variant with altered properties

PUBLICATION-DATE: May 13, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Andersen, Carsten	Vaerlose		DK

US-CL-CURRENT: [435/202](#); [435/252.3](#), [435/320.1](#), [435/69.1](#), [510/220](#), [510/320](#), [536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw D
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☐ 3. Document ID: US 20020123124 A1

L1: Entry 3 of 5

File: PGPB

Sep 5, 2002

PGPUB-DOCUMENT-NUMBER: 20020123124

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020123124 A1

TITLE: Highly productive alpha-amylases

PUBLICATION-DATE: September 5, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Araki, Hiroyuki	Haga-gun		JP
Endo, Keiji	Haga-gun		JP
Hagihara, Hiroshi	Haga-gun		JP
Igarashi, Kazuaki	Haga-gun		JP
Hayashi, Yasuhiro	Haga-gun		JP
Ozaki, Katsuya	Haga-gun		JP

US-CL-CURRENT: [435/202](#); [435/320.1](#), [435/325](#), [435/69.1](#), [536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw D
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☐ 4. Document ID: US 6743616 B2

L1: Entry 4 of 5

File: USPT

Jun 1, 2004

US-PAT-NO: 6743616

DOCUMENT-IDENTIFIER: US 6743616 B2

**\*\* See image for Certificate of Correction \*\***

TITLE: Highly productive alpha-amylases

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw D
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☐ 5. Document ID: US 20040091994 A1, WO 200231124 A2, AU 200210380 A, EP 1326965 A2

L1: Entry 5 of 5

File: DWPI

May 13, 2004

DERWENT-ACC-NO: 2002-463264

DERWENT-WEEK: 200432

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TITLE: KSM-K36 or KSM-K38 variant from Bacillus for cleaning dishes, textile desizing, starch liquefaction and ethanol production has alpha-amylase activity

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Summary	Claims	KMHC	Draw De
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Terms

Documents

amylase with bacillus with (ksm adj3 k38 or  
bp adj3 6946 or k38amy)

5

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NEWS 7 DEC 21 IPC search and display fields enhanced in CA/CAPLUS with the  
IPC reform  
NEWS 8 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/  
USPAT2  
NEWS 9 JAN 13 IPC 8 searching in IFIPAT, IFIUDB, and IFICDB  
NEWS 10 JAN 13 New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to  
INPADOC

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<http://download.cas.org/express/v8.0-Discover/>

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=> s amylase (5a)bacillus(5a)(ksm-k38 or bp-6946 or k38amy)  
L1 27 AMYLASE (5A) BACILLUS(5A) (KSM-K38 OR BP-6946 OR K38AMY)

=> dup rem l1  
PROCESSING COMPLETED FOR L1  
L2 11 DUP REM L1 (16 DUPLICATES REMOVED)

=> d 1-11

L2 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
AN 2005:1004880 HCAPLUS  
DN 143:280533  
TI Modified sigE recognized promoter for increased expression of recombinant  
proteins  
IN Endo, Keiji; Ozaki, Katsuya  
PA Kao Corporation, Japan  
SO PCT Int. Appl., 19 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005085441	A1	20050915	WO 2005-JP3757	20050304
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	JP 2005278644	A2	20051013	JP 2005-60482	20050304
PRAI	JP 2004-62853	A	20040305		
RE.CNT	9				
	THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT				

L2 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
AN 2005:207942 HCAPLUS  
DN 142:331573  
TI An oxidation stable and chelator-resistant, calcium-free .alpha.-  
\*\*\*amylase\*\*\* from the alkaliphilic \*\*\*Bacillus\*\*\* isolate  
\*\*\*KSM\*\*\* - \*\*\*K38\*\*\*  
AU Hagihara, Hiroshi

CS Biol. Sci. Lab., Kao Corp., Tochigi, 321-3497, Japan  
SO Journal of Applied Glycoscience (2005), 52(1), 51-58  
CODEN: JAGLFX; ISSN: 1344-7882  
PB Japanese Society of Applied Glycoscience  
DT Journal; General Review  
LA Japanese

L2 ANSWER 3 OF 11 MEDLINE on STN DUPLICATE 1  
AN 2003316377 MEDLINE  
DN PubMed ID: 12719434  
TI Crystal structure of calcium-free alpha- \*\*\*amylase\*\*\* from  
\*\*\*Bacillus\*\*\* sp. strain \*\*\*KSM\*\*\* - \*\*\*K38\*\*\* (AmyK38) and its  
sodium ion binding sites.  
AU Nonaka Tsuyoshi; Fujihashi Masahiro; Kita Akiko; Hagihara Hiroshi; Ozaki  
Katsuya; Ito Susumu; Miki Kunio  
CS Department of Chemistry, Graduate School of Science, Kyoto University,  
Sakyo-ku, Japan.  
SO Journal of biological chemistry, (2003 Jul 4) 278 (27) 24818-24.  
Electronic Publication: 2003-04-28.  
Journal code: 2985121R. ISSN: 0021-9258.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)  
LA English  
FS Priority Journals  
OS PDB-1UD2; PDB-1UD3; PDB-1UD4; PDB-1UD5; PDB-1UD6; PDB-1UD8  
EM 200308  
ED Entered STN: 20030709  
Last Updated on STN: 20030819  
Entered Medline: 20030818

L2 ANSWER 4 OF 11 BIOTECHDS COPYRIGHT 2006 THE THOMSON CORP. on STN  
DUPLICATE 2  
AN 2002-16321 BIOTECHDS  
TI KSM-K36 or KSM-K38 variant from Bacillus for cleaning dishes, textile  
desizing, starch liquefaction and ethanol production has alpha-amylase  
activity;  
plasmid-mediated recombinant mutant enzyme gene transfer and  
expression in Bacillus sp.  
AU ANDERSEN C  
PA NOVOZYMES AS  
PI WO 2002031124 18 Apr 2002  
AI WO 2000-DK668 13 Oct 2000  
PRAI US 2001-326752 3 Oct 2001  
DT Patent  
LA English  
OS WPI: 2002-463264 [49]

L2 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
AN 2002:284478 HCAPLUS  
DN 136:305146  
TI Recombinant mutant alkalophilic Bacillus .alpha.-amylase with improved  
thermostability, recombinant expression, and detergent use  
IN Araki, Hiroyuki; Endo, Keiji; Hagiwara, Hiroshi; Igarashi, Kazuaki;  
Hayashi, Yasuhiro; Ozaki, Katsuya  
PA Kao Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 28 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002112792	A2	20020416	JP 2000-310605	20001011
	US 2002123124	A1	20020905	US 2001-971611	20011009
	US 6743616	B2	20040601		
	EP 1199356	A2	20020424	EP 2001-123378	20011010
	EP 1199356	A3	20020515		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	CN 1348000	A	20020508	CN 2001-141253	20011011
	US 2004265959	A1	20041230	US 2004-798278	20040312
PRAI	JP 2000-310605	A	20001011		

L2 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2002:660551 HCAPLUS  
 DN 137:212837  
 TI Improvement of thermostability of a calcium-free .alpha.-amylase from an  
 alkaliphilic Bacillus sp. by protein engineering  
 AU Hagihara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Kitayama, Kaori;  
 Endo, Keiji; Ozawa, Tadahiro; Ozaki, Katsuya; Kawai, Shuji; Ito, Susumu  
 CS Tochigi Research Laboratories, Kao Corporation, Tochigi, 321-3497, Japan  
 SO Journal of Applied Glycoscience (2002), 49(3), 281-289  
 CODEN: JAGLFX; ISSN: 1344-7882  
 PB Japanese Society of Applied Glycoscience  
 DT Journal  
 LA English

L2 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2001:10699 HCAPLUS  
 DN 134:82718  
 TI Mutant .alpha.-amylases with improved thermal stability for use in  
 detergents  
 IN Endo, Keiji; Igarashi, Kazuaki; Hayashi, Yasuhiro; Hagihara, Hiroshi;  
 Ozaki, Katsuya  
 PA Kao Corp., Japan  
 SO Eur. Pat. Appl., 28 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1065277	A1	20010103	EP 2000-111911	20000613
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2001054392	A2	20010227	JP 2000-170517	20000607
	CN 1277258	A	20001220	CN 2000-118140	20000609
	US 2005181493	A1	20050818	US 2004-988529	20041116
PRAI	JP 1999-163569	A	19990610		
	US 2000-590375	A3	20000609		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 8 OF 11 MEDLINE on STN DUPLICATE 3  
 AN 2001403199 MEDLINE  
 DN PubMed ID: 11453991  
 TI Deduced amino-acid sequence of a calcium-free alpha-amylase from a strain  
 of Bacillus: implications from molecular modeling of high oxidation  
 stability and chelator resistance of the enzyme.  
 AU Hagihara H; Hayashi Y; Endo K; Igarashi K; Ozawa T; Kawai S; Ozaki K; Ito  
 S  
 CS Tochigi Research Laboratories of Kao Corporation, Ichikai, Haga, Japan.  
 SO European journal of biochemistry / FEBS, (2001 Jul) 268 (14) 3974-82.  
 Journal code: 0107600. ISSN: 0014-2956.  
 CY Germany: Germany, Federal Republic of  
 DT Journal; Article; (JOURNAL ARTICLE)  
 LA English  
 FS Priority Journals  
 OS GENBANK-AB051102  
 EM 200108  
 ED Entered STN: 20010820  
 Last Updated on STN: 20010820  
 Entered Medline: 20010816

L2 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2001:263361 HCAPLUS  
 DN 135:15848  
 TI Novel .alpha.-amylase that is highly resistant to chelating reagents and  
 chemical oxidants from the alkaliphilic Bacillus isolate KSM-K38  
 AU Hagihara, Hiroshi; Igarashi, Kazuaki; Hayashi, Yasuhiro; Endo, Keiji;  
 Ikawa-Kitayama, Kaori; Ozaki, Katsuya; Kawai, Shuji; Ito, Susumu  
 CS Tochigi Research Laboratories of Kao Corporation, Tochigi, 321-3497, Japan  
 SO Applied and Environmental Microbiology (2001), 67(4), 1744-1750

CODEN: AEMIDF; ISSN: 0099-2240  
 PB American Society for Microbiology  
 DT Journal  
 LA English  
 RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:452371 HCAPLUS  
 DN 133:70699  
 TI Novel oxidizing agents-resistant alkaline amylase from Bacillus and its  
 use for preparation of detergents  
 IN Hagiwara, Hiroshi; Kitayama, Kaori; Hayashi, Yasuhiro; Igarashi, Kazuaki;  
 Endo, Keiji; Ozaki, Katsuya  
 PA Kao Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000184883	A2	20000704	JP 1998-362488	19981221
	US 6403355	B1	20020611	US 1999-465519	19991216
	EP 1022334	A2	20000726	EP 1999-125399	19991220
	EP 1022334	A3	20020807		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CN 1257917	A	20000628	CN 1999-126451	19991221
	CN 1552852	A	20041208	CN 2004-10059291	19991221
	US 2002197698	A1	20021226	US 2002-136272	20020502
	US 6916645	B2	20050712		
PRAI	JP 1998-362487	A	19981221		
	JP 1998-362488	A	19981221		
	US 1999-465519	A3	19991216		

L2 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2000:452370 HCAPLUS  
 DN 133:86088  
 TI Novel chelating agents-resistant alkaline amylase from Bacillus and its  
 use for preparation of detergents  
 IN Hagiwara, Hiroshi; Kitayama, Kaori; Hayashi, Yasuhiro; Igarashi, Kazuaki;  
 Endo, Keiji; Ozaki, Katsuya  
 PA Kao Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000184882	A2	20000704	JP 1998-362487	19981221
	US 6403355	B1	20020611	US 1999-465519	19991216
	EP 1022334	A2	20000726	EP 1999-125399	19991220
	EP 1022334	A3	20020807		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CN 1257917	A	20000628	CN 1999-126451	19991221
	CN 1552852	A	20041208	CN 2004-10059291	19991221
	US 2002197698	A1	20021226	US 2002-136272	20020502
	US 6916645	B2	20050712		
PRAI	JP 1998-362487	A	19981221		
	JP 1998-362488	A	19981221		
	US 1999-465519	A3	19991216		

=> d 10 ab

L2 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2006 ACS on STN  
 AB A novel oxidizing agents-resistant alk. liquefaction-type \*\*\*amylase\*\*\*  
 has been prepd. from \*\*\*Bacillus\*\*\* strains KSM-K36 and \*\*\*KSM\*\*\* -  
 \*\*\*K38\*\*\*, resp. The enzyme exhibits a pH optimum >8.0, temp. optimum

50-60.degree., pI 4.2, and mol. wt. 55,000.+-.5,000 by SDS-PAGE. The enzyme remains >70% active after incubating at pH 10, 30.degree., for 60 min in the presence of 2% H2O2. Use of the amylase for the prepn. of laundry or dish wash detergents is also described.

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(FILE 'HOME' ENTERED AT 19:00:22 ON 13 JAN 2006)

FILE 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIODBASE, BIOTECHNO, WPIDS' ENTERED AT 19:01:22 ON 13 JAN 2006

L1 27 S AMYLASE (5A)BACILLUS(5A)(KSM-K38 OR BP-6946 OR K38AMY)

L2 11 DUP REM L1 (16 DUPLICATES REMOVED)

=> log h

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

30.85

31.27

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-0.75

-0.75

SESSION WILL BE HELD FOR 60 MINUTES

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